

In the Claims:

Please amend claims 1,2, 4-7. Please cancel claims 3, 8, 9, 22-30. Please add new claim 31-33. The claims are as follows:

1. (Currently Amended) A space transformer comprising:

[[a]] an insulating body having a top surface and an opposite bottom surface and a cavity open to said bottom surface;

through holes extending from said top surface of said body to said cavity;
a discrete ground conductor having a top surface and an opposite lower surface, said ground conductor contained within said [[body]] cavity, said top surface of said ground conductor in direct physical contact with an inner surface of said cavity opposite said top surface of said body;

a discrete insulator having a top surface and an opposite bottom surface, said insulating layer contained within said cavity, said top surface of said insulating layer in direct physical contact with said bottom surface of said ground conductor;

a discrete power conductor having a top surface and an opposite lower surface, said power conductor contained within said [[body]] cavity, said top surface of said power conductor in direct physical contact with said lower surface of said power conductor adapted to be at a higher voltage level than a voltage level of said ground conductor insulator;

a first printed circuit board having a top surface and an opposite bottom surface, said first printed circuit board contained within said cavity, said first printed circuit board comprising at least one electrically conductive wiring layer and one dielectric layer, said top surface of said

first printed circuit board in direct physical contact with said bottom surface of said power conductor;

a second printed circuit board having a top surface and an opposite bottom surface, said second printed circuit board contained within said cavity, said second printed circuit board comprising at least one electrically conductive wiring layer and one dielectric layer, said top surface of said second printed circuit board in direct physical contact with said bottom surface of said first printed circuit board;

one or more discrete first decoupling capacitors physically located within said [[body]] cavity and electrically connected between said ground conductor and said power conductor; and

one or more discrete second decoupling capacitors physically located within said cavity and electrically connected between said ground conductor and at least one of said at least one electrically conductive wiring layer of said first printed circuit board.

2. (Currently Amended) The space transformer of claim [[3]] 1, further including:

one or more ground pins electrically connected to and extending from said ground conductor through said a first set of said through holes in said body to said top surface of said body to a top surface of said space transformer;

one or more power pins electrically connected to and extending from said power conductor through a second set of said through holes in said body to said top surface of said body to said top surface of said space transformer; and

one or more signal wires or signal pins extending through a third set of said through holes in said body to said top surface of said body said space transformer to said top surface of said space transformer; and

one or more auxiliary power/ground pins electrically connected to and extending from said auxiliary power/ground board through a fourth set of said through holes in said body to said top surface of said body to said top surface of said space transformer.

3. (Cancelled)

4. (Currently Amended) The space transformer of claim 2, wherein the length of an electrical path between said decoupling capacitors and said one or more ground pins and said one or more power pins at said top surface of said space-transformer body is between 5 to 25 millimeters.

5. (Currently Amended) The space transformer of claim 2, wherein the length of an electrical path between tips of said one or more ground pins and said one or more power pins at said top surface of said space-transformer body and said ground conductor and said power conductor respectively is between 1 to 3 millimeters.

6. (Currently Amended) The space transformer of claim [[3]] 1, wherein each of said one or more discrete first decoupling capacitors and each of said one or more discrete second decoupling capacitors have an inductance between 175 pico Henries and 1 nano Henry.

7. (Currently Amended) The space transformer of claim [[3]] 1, wherein each of said one or more discrete first decoupling capacitors and each of said one or more discrete second decoupling capacitors have an inductance less than 60 pico Henries.

8-9 (Cancelled)

10. (Withdrawn) A wafer test apparatus comprising:

a probe card;
a space transformer mounted to a top surface of said probe card, said space transformer comprising:
a body;
a ground conductor within said body;
a power conductor within said body, said power conductor adapted to be at a higher voltage level than a voltage level of said ground conductor; and
one or more decoupling capacitors physically located within said body and electrically connected between said ground conductor and said power conductor; and
a probe mounted to said space transformer.

11. (Withdrawn) The apparatus of claim 10, further including:

one or more ground pins electrically connected to and extending from said ground conductor to a top surface of said space transformer;
one or more power pins electrically connected to and extending from said power conductor to said top surface of said space transformer;
one or more signal wires or signal pins extending through said space transformer to said top surface of said space transformer; and

said probe electrically contacting said one or more ground pins, said one or more power pins and said one or more signal wires or signal pins at said top surface of said space transformer.

12. (Withdrawn) The apparatus of claim 11 wherein said signal wires are electrically connected to a bottom surface of said probe card.

13. (Withdrawn) The apparatus of claim 11, further including:

an auxiliary power/ground board within said body; and
one or more auxiliary power/ground pins electrically connected to and extending from said auxiliary power/ground board to said top surface of said space transformer.

14. (Withdrawn) The apparatus of claim 11, wherein the length of an electrical path between said decoupling capacitors and said one or more ground pins and said one or more power pins at said top surface of said space transformer is between 5 to 25 millimeters.

15. (Withdrawn) The apparatus of claim 11, wherein the length of an electrical path between tips of said one or more ground pins and said one or more power pins at said top surface of said space transformer and said ground conductor and said power conductor respectively is between 1 to 3 millimeters.

16. (Withdrawn) The apparatus of claim 10, wherein said decoupling capacitors have an inductance between 175 pico Henries and 1 nano Henry.

17. (Withdrawn) The apparatus of claim 10, wherein said decoupling capacitors have an inductance less than 60 pico Henries.

18. (Withdrawn) The apparatus of claim 10, wherein:

said ground conductor is separated from said power conductor by an insulator; and
said ground conductor, said insulator and said power conductor are stacked within said body of said space transformer.

19. (Withdrawn) The apparatus of claim 10, further including:

a signal board within said body; and
one or more signal pins electrically connected to and extending from said signal board to a top surface of said space transformer

20. (Withdrawn) The apparatus of claim 19, wherein said signal board is electrically connected to a top surface of said probe card.

21. (Withdrawn) The apparatus of claim 10, wherein said probe is a thin film interface probe, a cantilevered probe or a spring-loaded probe.

22 -30 (Canceled)

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31. (New) The space transformer of claim 1, wherein perimeters of said ground conductor and said insulator and are aligned entirely within a perimeter of said power conductor and said perimeter of said power conductor is aligned entirely within a perimeter of said first printed circuit board.

32. (New) The space transformer of claim 1, wherein first contacts of said one or more discrete first decoupling capacitors are physically connected to said ground conductor and second contacts of said one or more discrete first decoupling capacitors are electrically connected to at least one of said at least one electrically conductive wiring layer of said first printed circuit board.

33. (New) The space transformer of claim 1, wherein first contacts of said one or more discrete second decoupling capacitors are physically connected to said ground conductor and second contacts of said one or more discrete first decoupling capacitors are electrically connected to at least one of said at least one electrically conductive wiring layer of said second printed circuit board.